

Cambridge Water Department Drainage & Community Gardens Project



David Kaplan - Cambridge Water Department



Jennifer Letourneau - Cambridge Conservation
Commission and Public Works

Design Team: Kirsten Ryan & Frank McPartlan - Kleinfelder
Klopfer Martin Design Group

Public Presentation, April 27, 2017



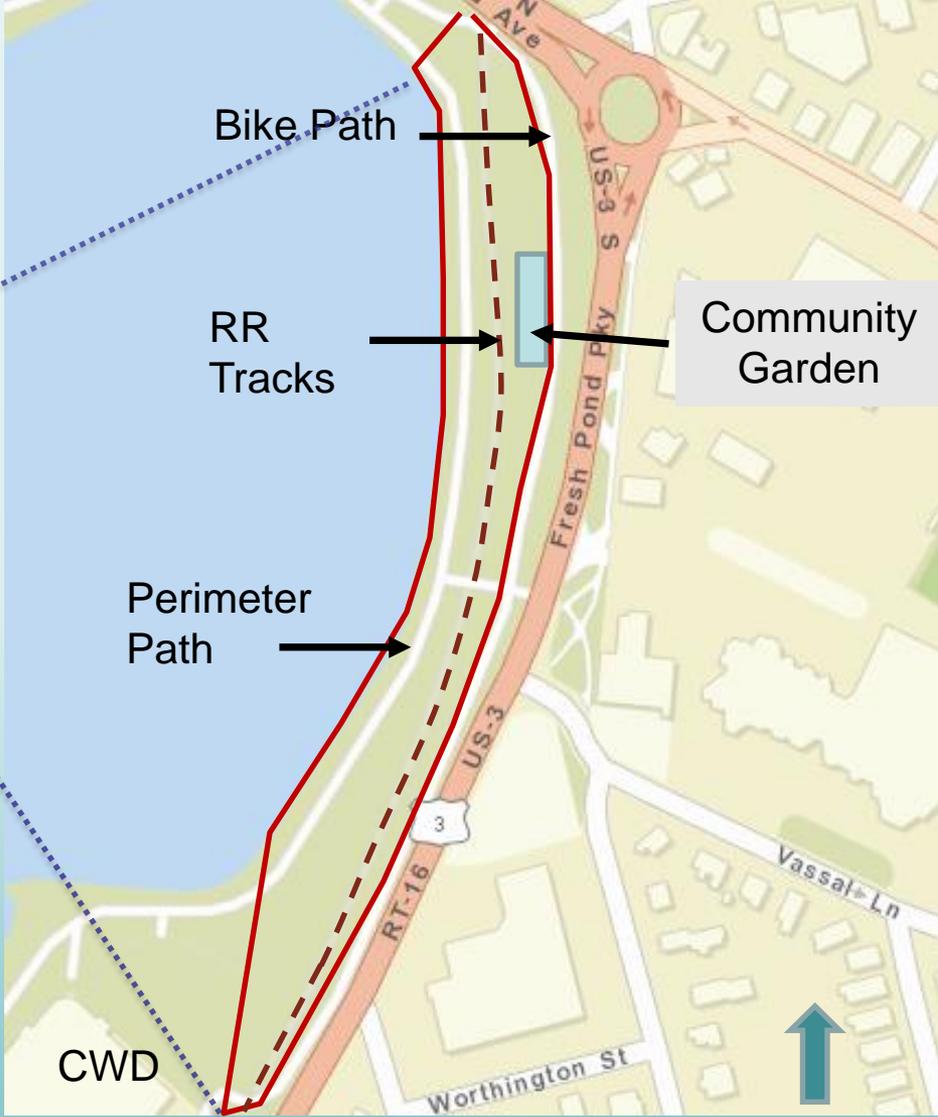
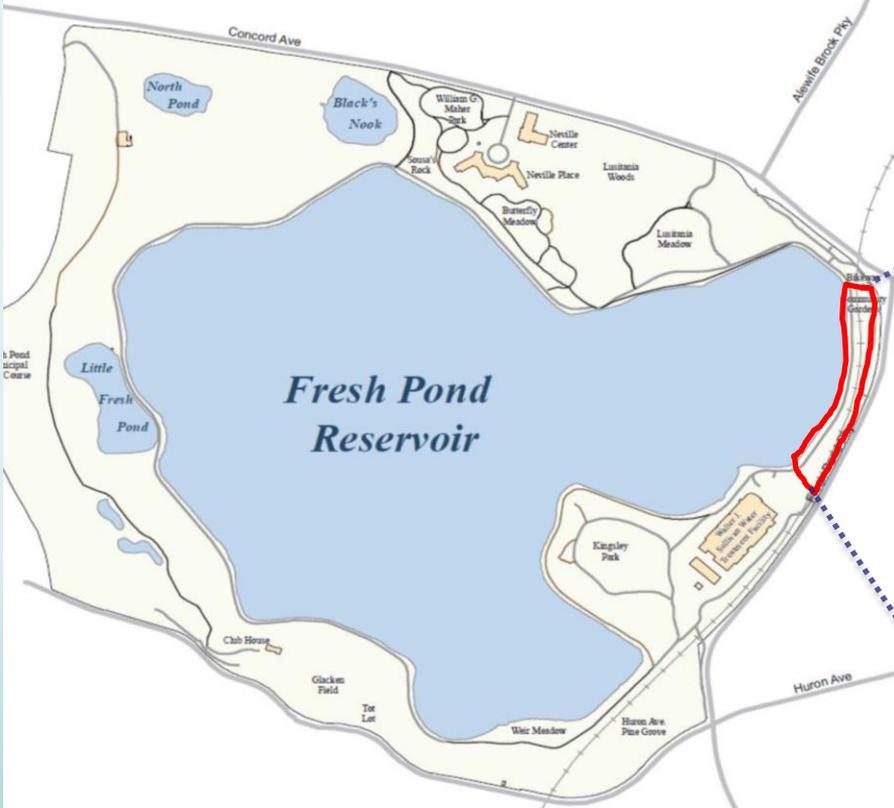
Agenda

- Project History, Timeline, Schedule
- Project Overview
- Community Gardens
- Detour Plan
- Q&A

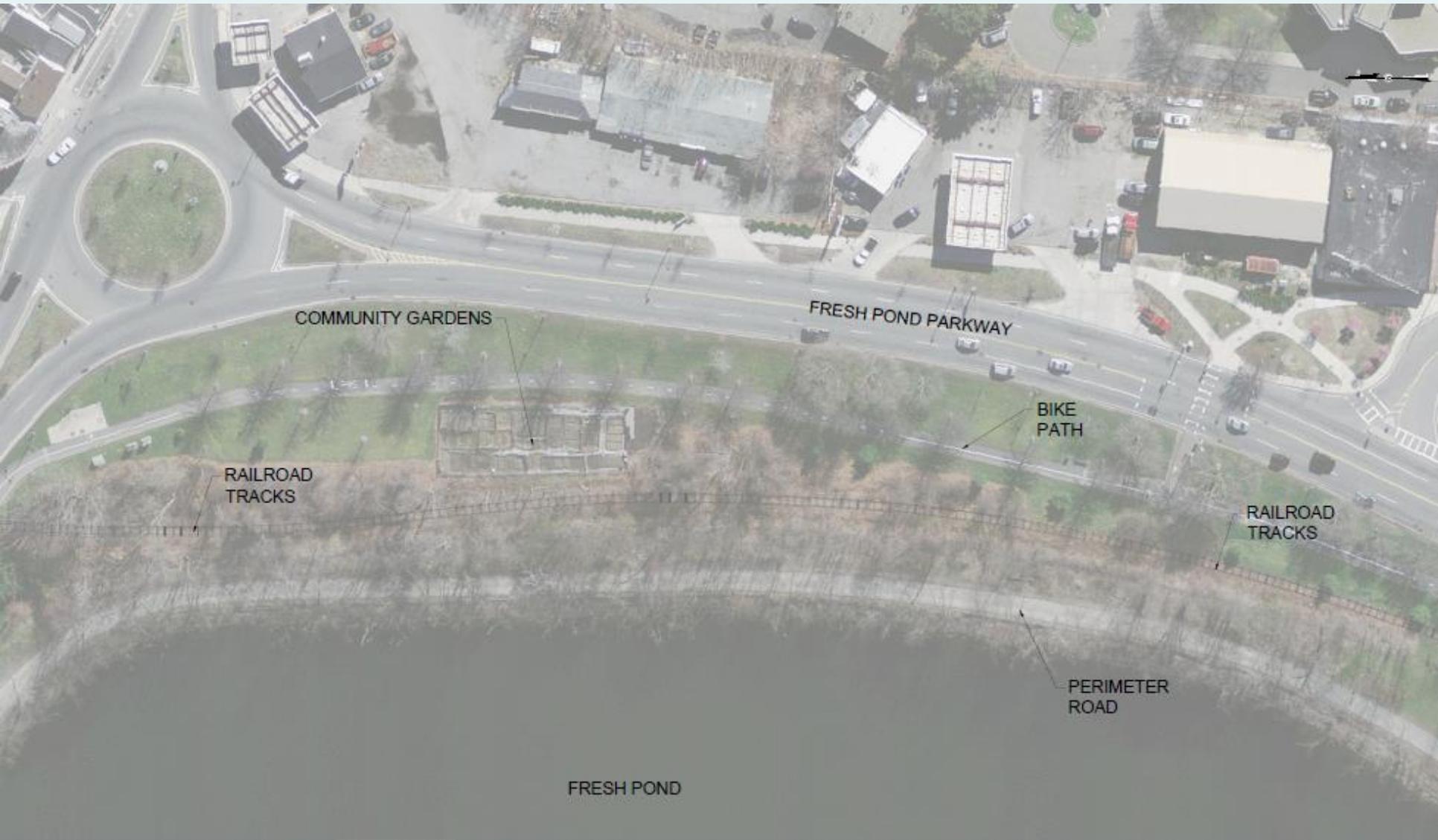
Project History, Timeline, Schedule

- Summer 2009 – Kleinfelder (formerly SEA) begins Conceptual Project Design
- Summer 2013 – CWD /DCR acquires ROW
- January 2014 – Kleinfelder begins redesign incorporating the ROW
- December 2015 – 75% design submittal, refining planting plan
- December 2016 – 100% submittal
- January to March 2017 – Bidding, Contract Award
- ***Spring 2017 through Spring 2018 – Construction***
- End of Spring 2018 – Site & Community Garden open

Project Location & Extents



Existing Conditions



Water quality & drainage

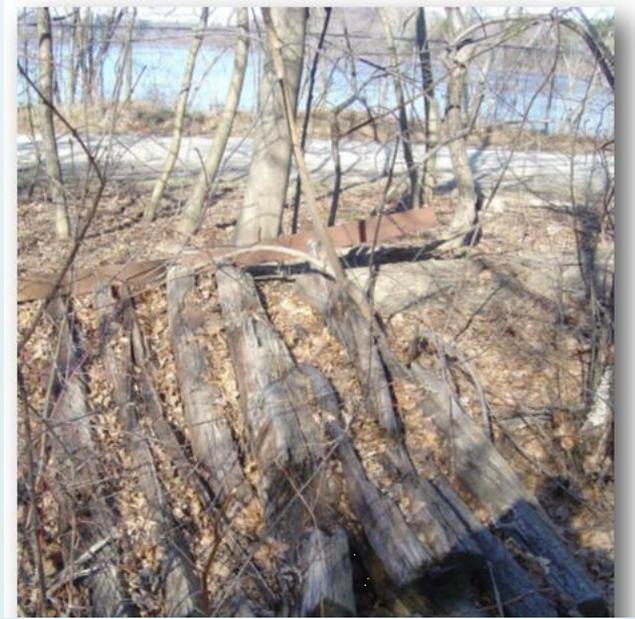


- **Flooding and poor drainage causes untreated stormwater to flow to Fresh Pond**
- **Puddles, uneven pavement and winter icing safety hazards**

Degraded railroad corridor



**Cut through path – exposed & compacted soils;
not ADA compliant**



**Debris and invasive plants
in rail bed**

Community Garden



poor drainage, hard to access, poorly defined plots, not ADA compliant

Fresh Pond Master Plan Vision Statement:

“...protecting and enhancing both the water quality of the Fresh Pond Reservation and its open space and naturalistic character”

“....preservation of water quality, recreational open spaces, natural green spaces, wildlife habitat and a refuge from hectic urban life”



Drainage / Community Garden Project Goals:

- Protect Fresh Pond water quality.
- Re-purpose & improve former rail corridor.
- Improve perimeter road drainage, safety, and accessibility.
- Buffer users from parkway traffic.
- Create & restore native habitat.
- Improve reservoir site lines
- Relocate, expand & improve Community Garden.
- Create accessible plots.

Design Approach Summary:

Challenge:

- Repurpose rail bed
- Treat stormwater & create habitat
- Preserve vistas from new path to Pond
- Provide buffer / screen between new Path and Parkway
- Garden remote; inaccessible
- Avoid/minimize/mitigate wetland resource impacts and tree removal

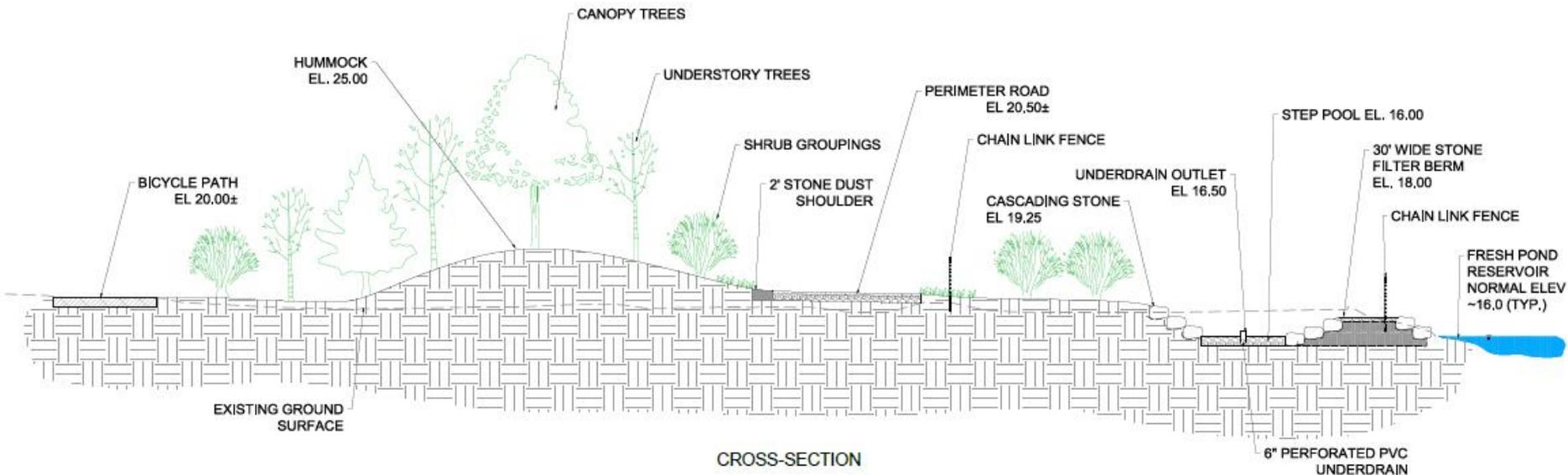
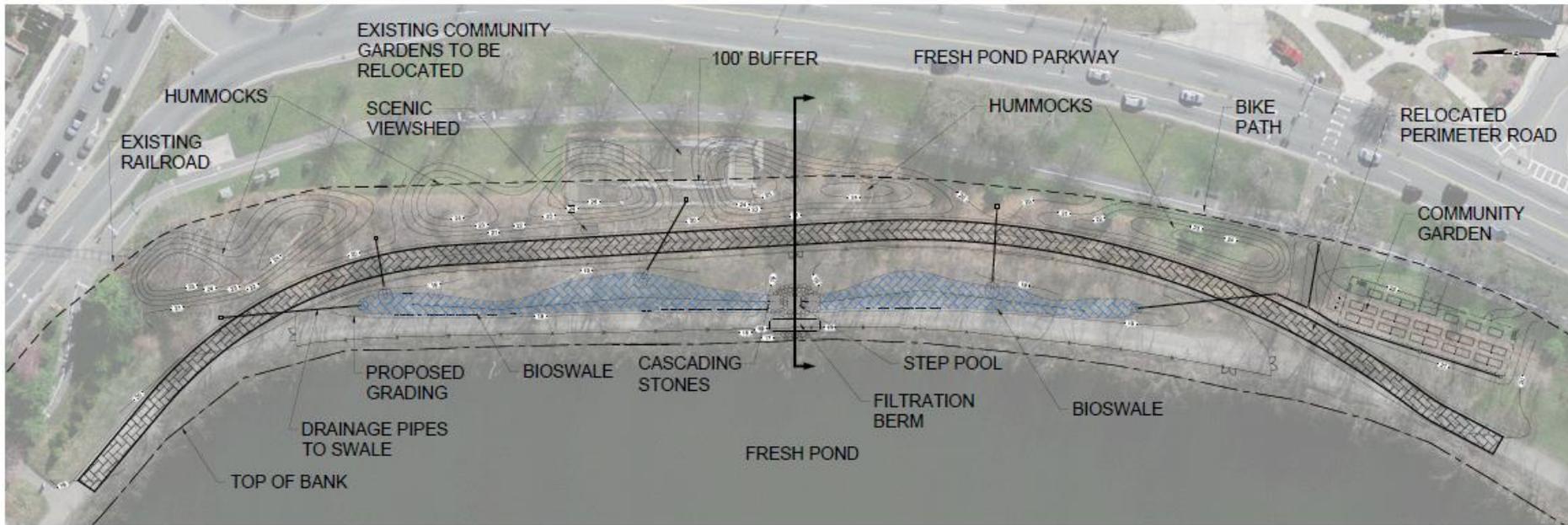
Solution:

- Bump out perimeter road
- Use green infrastructure bioswale
- Elevate new path slightly to provide sightlines; use lower plantings
- Hummock features planted with high habitat value native species
- Relocate Garden more centrally; reconfigure for accessibility
- Limit disturbance of bank; minimize mature native tree removal; create and restore native wetland habitat

Conceptual Rendering



Grading & Drainage Design



Landscape Restoration Planting approach:

- Minimize mature native tree removal while achieving project goals
- Solicit input from Fresh Pond Master Plan Advisory Board, and consultant plant, ecological experts
- Use native species in a community-based approach
- Remove invasive species
- Provide visual screening of Parkway

Tree Summary

Fresh Pond Drainage Improvements City of Cambridge, MA

- Perimeter Road
- Outfall Features
- Proposed Grades
- Approx. Canopy Size of Trees of Interest

Trees

- Trees to be Removed
- Trees to Remain
- Trees of Interest to be Preserved
- Trees of Interest to be Removed

Notes

1. Trees were surveyed by Precision Land Surveying.
2. Trees of 6-inch caliper or greater, 4' above ground surface were surveyed.
3. Not all trees under 6-inch caliper are depicted on plan.

PROJECT NO.: 0056

DRAWN: September 2016

DRAWN BY: ELD

CHECKED BY: BJF

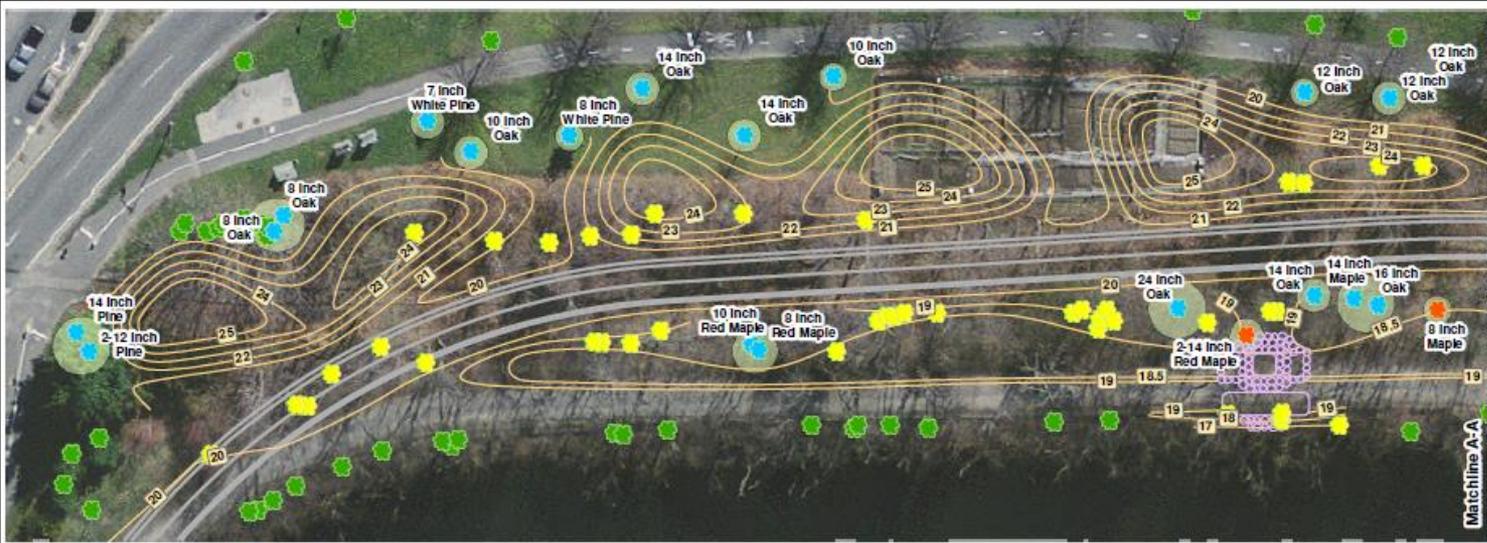
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Matchline A-A



Matchline A-A



Cambridge Water Department Drainage & Community Garden Improvements Project

Plant Lists

Bioretention – 7,500 plugs		Trees – 182 new	Shrubs – 729 new
Swamp Milkweed	Blue Vervain	White Pine	Bush Honeysuckle
New England Aster	Cardinal Flower	Red Oak	Spicebush
New York Aster	Blue Lobelia	Serviceberry	Gray Dogwood
Lurid Sedge	Woolgrass	Yellow Birch	Witchhazel
Tussock Sedge	White Turtlehead	Musclewood	Carolina Rose
Fox Sedge	Blue Flag Iris	Ironwood	Black Chokeberry
Hop Sedge		Red Maple	Floodplain seed mix
Joe-Pye Weed		Black Oak	Woodland seed mix
Boneset		Sour Gum	
Soft Rush		Shagbark Hickory	
Switchgrass		Sweet Birch	

Bioretention Planting Examples



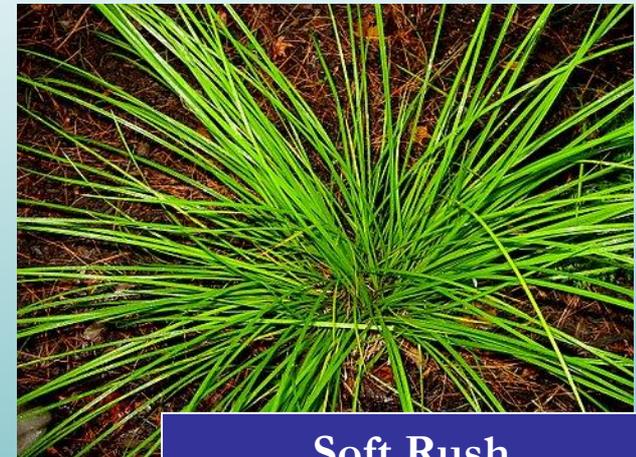
Swamp Milkweed



Cardinal
Flower



Blue Flag Iris



Soft Rush

Drainage / Community Garden Project Goals:

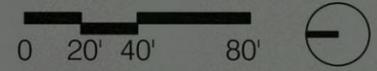
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Existing Garden

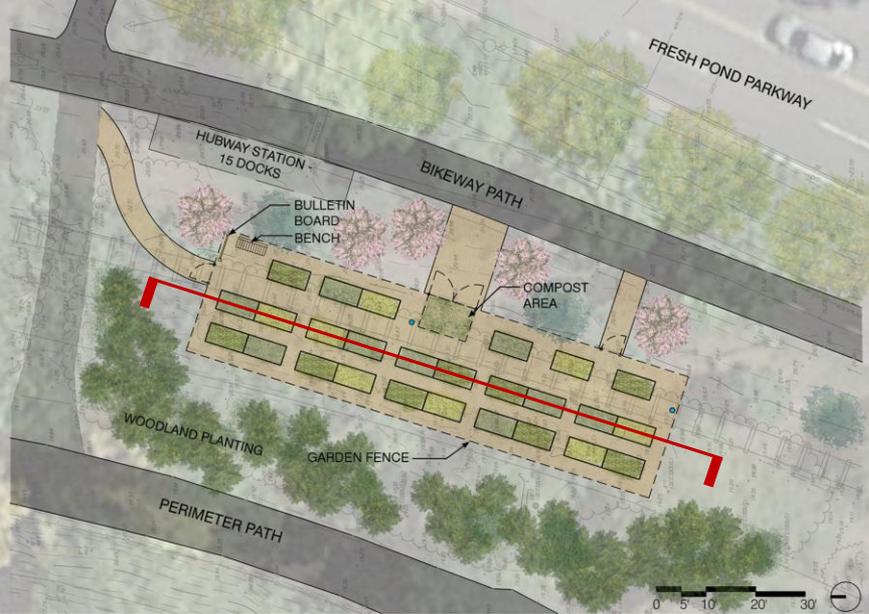
Proposed Garden

Community Garden Context Plan



Community Garden





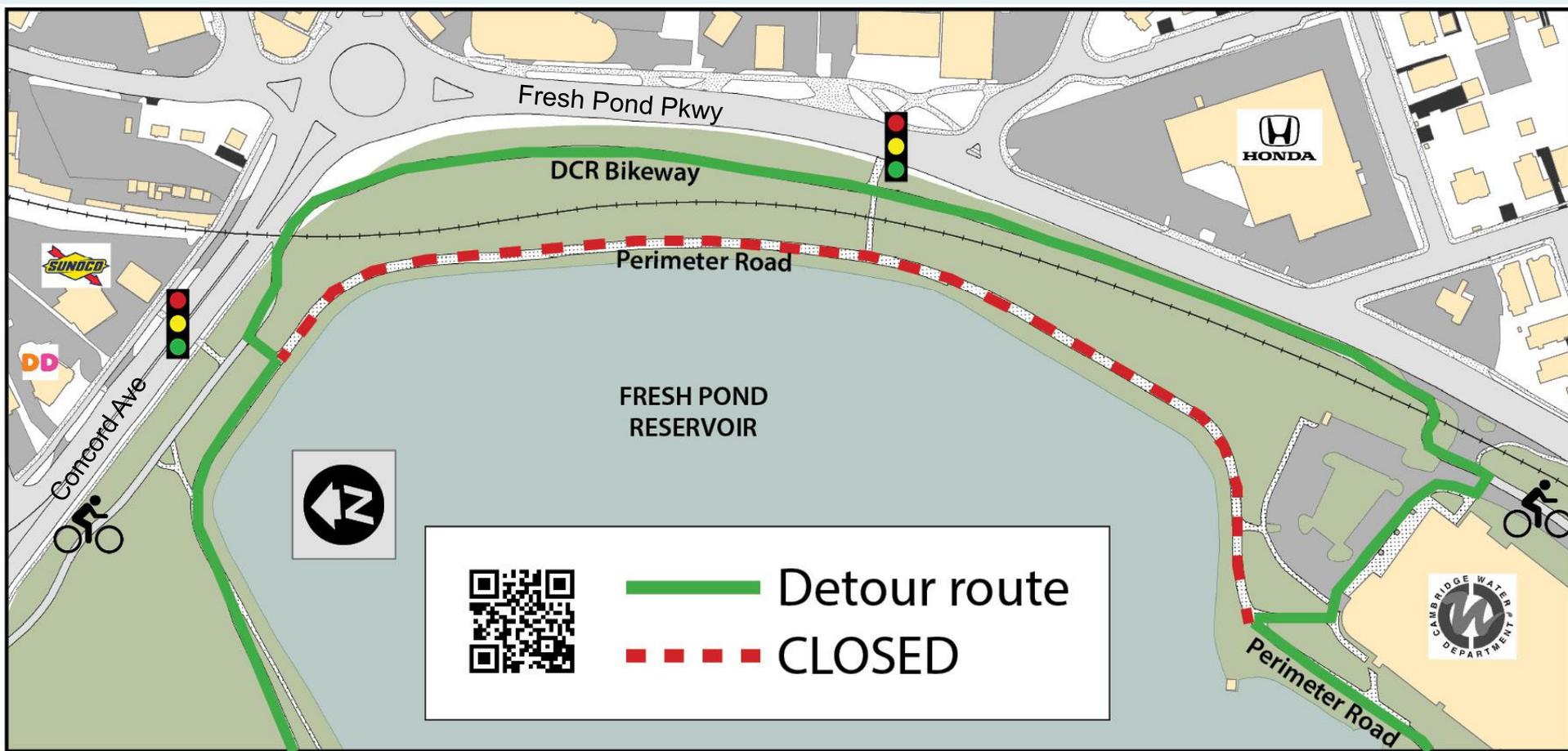
Garden Cross Section



Additional Site Amenities

- Seating area
- 2' soft shoulder
- Water fountain, bike racks at Community Garden
- Hubway station at Treatment Facility entrance
- Big belly trash, recycling unit
- Refurbished and lower fence heights

Construction Detour



Public Process: 2014 - Today

- Fresh Pond Master Plan Advisory Board Quarterly Public Meetings
 - Total of 11 public meetings held between May, 2014 – March 2017
- Cambridge Water Board Monthly Meetings
 - Total of ~33 public meetings where DCG updates on agenda, discussed
- June 11, 2015 – Public meeting to discuss design alternatives, solicit public comment, feedback
- Public outreach table at Fresh Pond Day, 2015 & 2016
- 11/14/2016 – Cambridge Conservation Commission WPA permit hearing
- 4/27/2017 – Construction Public Information Meeting
- 5/1/2017 12pm – 1pm, Tabling at Water Treatment Facility
- 5/3/2017 2pm – 3pm, Tabling at Water Treatment Facility
- 5/5/2017 8am – 9am, Tabling at Water Treatment Facility

Discussion / Questions

- David Kaplan, Watershed Manager, DCG Project Manager
617-349-4799
dkaplan@cambridgema.gov
- Jennifer Letourneau – Conservation Commission Director, DPW Engineer
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jletourneau@cambridgema.gov